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ABSTRACT

Sex differences in children's reactions to failure feedback in school situations were investigated by assessing the ways in which teachers use negative evaluation in the classroom. Three aspects of teachers' evaluative feedback were studied: (1) ratio of negative to positive feedback; (2) contingency vs. noncontingency of feedback; and (3) (the major aspect) the particular aspects of performance upon which negative evaluation was contingent. In 5 fourth and fifth grade classrooms, every contingent evaluative statement made by the teacher was classified according to the class of behaviors upon which it was contingent (conduct, intellectual quality of academic performance, or intellectually irrelevant aspects of academic performance). Feedback was also classified according to the reason for failure (lack of motivation, lack of ability, or other external factors). Boys and girls received virtually the same proportions of positive and negative evaluation for the intellectual quality of their work. However, there were striking sex differences in the contexts in which negative evaluations were given. Implications of these results were discussed in terms of teachers' evaluations of their students, differences in teachers' attitudes towards boys and girls, and sex differences in children's own achievement expectations and ability assessments. Some suggestions for consistent uses of negative evaluation in the classroom are included. (Author/ED)

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Sex Differences in the Meaning of Negative Evaluation in Achievement Situations: Determinants and Consequences[1]

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Sex differences in reactions to failure feedback in highly evaluative situations are well-documented. The evidence shows that under these circumstances, girls are more likely than boys to show disrupted performance, decreased persistence, or avoidance on the task at which they failed (Butterfield, 1965; V. J. Crandall & Rabson, 1960; Dweck & Gilliard, in press; Maccoby, 1966; Nicholls, 1975; Veroff, 1969; Young & Brown, 1973). Boys, on the other hand, often show improved performance, increased persistence, and approach to tasks that present a challenge. These disparate reactions have been linked to sex differences in attributions for failure--girls are more likely than boys to blame their abilities and boys are more likely to blame motivational or external factors (Dweck & Reppucci, 1973; Nicholls, 1975). This difference, interestingly enough, appears to occur only with adult evaluators. We have recently found (Dweck & Bush, 1975) that with peer evaluators, it is the boys whose performance is adversely affected and who tend to attribute failure to lack of ability. The question, then, is how does negative evaluation from adults come to have different meaning and impact for boys and girls? How do their histories of feedback from adults differ so that girls come to view failure feedback as a condemnation of their abilities and boys do not?

To begin to answer these questions we looked at the ways in which teachers use negative evaluation in the classroom. It was assumed that the information value of negative evaluation for boys and girls would depend on what it was typically used to convey to them. The research of Cairns and others (e.g., Cairns, 1970; Eisenberger, 1974; Paris & Cairns, 1972; Warren & Cairns, 1972) has clearly demonstrated that when feedback is used indiscriminately and for a wide spectrum of nonintellectual behavior, it comes to lose its meaning as an evaluation of the quality of the child's performance. So, for example, if teachers' negative evaluation to boys is used for a great many intellectually irrelevant behaviors

(particularly intellectually irrelevant aspects of academic work), it may often fail to convey information about the intellectual quality of the work--even when it is used for this purpose. If teachers' negative evaluation to girls is reserved specifically for occasions on which they give an incorrect response or display intellectually inadequate performance, then negatives will convey unambiguous information about the intellectual quality of their work. Therefore, we were interested not only in the ratio of negative to positive feedback or in the contingency versus noncontingency of the feedback, but, more important, in the particular aspects of performance upon which negative evaluation was contingent. In five 4th and 5th grade classrooms every evaluative statement made by the teacher that was categorized as contingent was further classified according to the class of behaviors upon which it was contingent, either (a) conduct, (b) the intellectual quality of academic performance (e.g., correctness of response), or (c) intellectually irrelevant aspects of academic performance--the form as opposed to the content (e.g., neatness, instruction-following, and the like). It was further assumed that the meaning of negative evaluation for the child would also be affected by the attributions teachers provided to "explain" the child's intellectual failures. Therefore, whenever possible, feedback was classified as conveying an attribution of failure to lack of motivation, lack of ability, or to some external factor.

Boys and girls received virtually the same proportions of positive and negative evaluation for the intellectual quality of their work (Boys: 62.8% positive, 24.7% negative, 12.3% no feedback; Girls: 60.4% positive, 24.4% negative, 15.1% no feedback). However, there were striking differences in the way negatives in general were used for them--and therefore in the context in which the feedback about the correctness of their answers was embedded. For boys, only <u>one-third</u> of the total negative evaluations they received were at all related to

the intellectual quality of their work. All the rest referred to conduct or intellectually irrelevant aspects of academic performance. In contrast, for girls, over two-thirds of the negative evaluation was specifically addressed to the correctness or quality of their products.

It could be argued that boys can discriminate between feedback for conduct and feedback for work, so that although conduct criticism may convey information about the teacher's attitude, it might not disrupt the information value of the feedback for academic work. Howe[illegible], [illegible]en looking only at feedback for academic work (omitting feedback for conduct), still a surprisingly large proportion of the negative evaluation for boys referred not to the correctness of their responses, but to nonintellectual aspects of performance: over 40% of the criticism directed at boys' work had nothing to do with its intellectual quality. Indeed, in many instances such feedback followed a correct answer. For girls, almost <u>all</u> of the negative evaluation referred directly to the incorrectness of their answers or the intellectual inadequacies of their work. Moreover, teachers explicitly attributed intellectual failures to lack of motivation six times as often for boys than for girls. It might also be mentioned that for positive evaluations, 94% were contingent on the intellectual quality of the work for boys, but only 79% for girls. Thus for boys positives may be more valid assessments of their competence than they are for girls. This pattern of results was obtained in every classroom. Furthermore, it was general across boys and girls within the classrooms and was not accounted for by a small subset of children.

These findings suggest that the indiscriminate use of negative evaluation for boys may make it ambiguous and somewhat invalid as an assessment of their intellectual performance. It most often provides information about the propriety of their conduct or intellectually irrelevant aspects of their work and may convey more about the teacher's attitude than about the child's own behavior or abilities.

It would not be surprising if this led to a marked decline both in the effectiveness of the negative evaluations the teacher delivers and in her valence for the child. Past research does, in fact, indicate that boys perceive less positive feeling toward them on the part of teachers (Davidson & Lang, 1960) and that the boys, in turn, express less positive attitudes toward school and their teacher (Berk, Rose, & Stuart, 1970; Neal & Proshek, 1967). However, when the feedback is construed by the boys as representing a reasonable assessment of the quality of their work, they are then likely to attribute their failure to lack of motivation, which does imply a strategy for attaining success (Dweck, 1975; Dweck & Reppucci, 1973; Weiner, 1972; 1974).

The way negative evaluation is used for girls, on the other hand, makes it a valid cue for assessing the intellectual quality of their work, but may often convey an explanation of a mistaken or unhelpful nature--lack of ability. Unlike boys, they are assumed to be exerting maximal effort, the teacher is generally positive toward them and uses negatives discriminatingly. While this may lead to changes in performance, research strongly suggests that these changes may not be adaptive in nature (Dweck, 1975; Weiner, 1972). The girl may lower her estimation of her abilities (See V. C. Crandall, 1969) and cease to persist despite her actual ability to attain success.

The observed patterns of feedback and the attributions they appear to encourage provide a good fit with the sex differences we see over and over again in achievement situations with adult evaluators. Moreover, these findings may help to explain some of the more puzzling sex differences in achievement-related behavior. For example, Crandall (1969) presents a great deal of evidence that girls consistently underestimate their chances for success relative to what their past performance would warrant. Boys, on the other hand, overestimate the probability of future success relative to their past accomplishments. Crandall's

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data also suggest that when feedback from the environment is inconsistent, girls key on the negative aspects and boys on the positive aspects of the feedback. It is plausible to assume that when a child is asked to make a prediction about future outcomes (be it grades or performance on an experimental task), the child will key on past outcomes that he views as relevant to evaluating his ability. The present results suggest that past failure feedback for boys may <u>not</u> be relevant to their assessment of their abilities (since they can blame their effort or the agent), while past successes have conveyed important information about their competence. Therefore in computing their chances for success in the future, the boys are likely to weigh past successes more heavily than past failures. For girls, however, past <u>failure</u> feedback has provided information about their abilities and is therefore likely to exert considerable influence on their prediction of future outcomes. So even when boys and girls experience similar histories of success and failure feedback for intellectual performance, the meaning of these evaluations has differed and the impact on future behavior will differ as well.

In addition, the present findings may have important implications for sex differences in academic achievement. We know that although girls outperform boys in grade school, boys gain the advantage later on. While other factors, such as sex-role pressures, certainly contribute to this reversal, the meaning of negative evaluation for the two sexes may also play a role. Specifically, the different interpretations that girls and boys give for failure feedback are likely to promote different patterns of generalization to new situations. Girls' attributions of failure to lack of ability on a task or in an academic area imply that when presented with a similar task in the future, the same attribution will be applicable. To the extent that girls encounter similar academic subjects throughout school, earlier condemnations of their ability remain relevant. For the boys, however, although blaming the teacher's attitude or bias may impair motivation and

performance in the immediate situation, by blaming the evaluating agent, he can maintain his belief in his ability to succeed. Therefore when the agent changes, as when he is promoted to the next grade or attends a new school, he may confront the situation with renewed effort. Thus girls' attributions of failure to lack of ability may discourage continued "testing" of the environment in future grades--both because similar tasks may mediate generalization of former attributions and because concluding that one lacks ability despite renewed effort is not the kind of information one might continually seek. Boys' attributions of failure to the agent, on the other hand, may encourage testing of the environment when the agent changes. It is far less threatening to conclude something negative about a new agent than it is to confirm something negative about one's abilities.

In a way, it is ironic that the adverse effects of negative evaluation on girls' performance stem, not from any discriminatory practices in the usual sense, but really from the more favorable treatment they receive--widespread use of positives and discriminating use of negatives. Needless to say, this does not imply that teachers should engage in the wholesale use of criticism for all children so that criticism will become less meaningful and girls will not blame their abilities. Nor is it suggested that teachers allow boys' disruptive or inappropriate behavior to go unnoticed for the sake of preserving the information value of negative evaluation. Instead, in order to maximize the probability of a positive change in performance, negative evaluation in the classroom should:

1. Provide explicit information about the quality or correctness of the response with little ambiguity as to the referent of the feedback;
2. Provide, implicitly or explicitly, an explanation of the failure, indicating how the failure can be overcome, for example, by suggesting strategies that are appropriate for reaching the correct solution.

To the extent, then, that feedback is ambiguous in its meaning for the child or provides no alternative mode of responding, it is unlikely to bring about desirable changes in performance and may, in fact, result in quite the opposite.

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